

TOTAL ORGANIC HALIDES (TOX) EPA 9020B REVISION 2 1994					
Facility Name: _____ VELAP ID _____					
Assessor Name: _____ Analyst Name: _____ Inspection Date _____					
Relevant Aspect of Standards	Method Reference	Y	N	N/A	Comments
<i>Records Examined:</i> SOP Number/ Revision/ Date _____ Analyst: _____ Sample ID: _____ Date of Sample Preparation: _____ Date of Analysis: _____					
Were samples collected so that there was no headspace in the sampling container?	2.1				
Were samples free from undissolved solids?	2.1				
Did method blanks analyses demonstrate that glassware, hardware, and reagents were free from interferences?	3.1				
Was glassware cleaned by treating with a chromate cleaning solution, detergent, hot water, tap water, and reagent water?	3.1.1				
Was all glassware, except volumetric, heated in a muffle furnace at 400°C for 15-30 minutes after cleaning?	3.1.1				
Was activated carbon verified to be less than 1,000 ng CL/40 mg prior to use?	3.2				
Was the exposure of activated carbon to air limited during and after milling and sieving?	3.2				
Were no more than 2-week supplies of activated carbon prepared in advance?	3.2				
Was carbon protected at all times from all sources of halogenated vapors?	3.2				
Were particulates eliminated from samples in the gentlest possible manner to avoid the loss of volatiles?	3.3				
Were adsorption module plug materials not touched with bare fingers?	4.1.4				
Were boat samplers muffled at 800°C for 2-4 minutes after each run?	4.2.1.1				
Were reagents of sufficient purity to allow for accuracy of determinations?	5.1				
Was 0.1M sodium sulfite solution made by dissolving 12.6 g ACS grade Na ₂ SO ₃ in reagent water and diluting to 1 Liter?	5.3				
Notes/Comments:					

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Was a 5,000 mg NO ₃ /L nitrate-wash solution prepared?	5.5				
Were oxygen and carbon dioxide gases of 99.9% purity?	5.6 5.7				
Was acetic acid solution prepared to 70% concentration?	5.9				
Were all samples collected in containers with Teflon septa and protected from light? (Foil is acceptable instead of Teflon.)	6.2				
Were samples preserved to a pH < 2 with sulfuric acid and stored at 4°C without for not longer than 28 days prior to analysis?	6.2				
Were sample containers washed and muffled at 400°C before use?	6.2				
Was 5 mg sodium sulfite crystals per liter of sample added to sample containers prior to sampling to reduce residual chlorine?	7.1.2				
Were the adsorption efficiencies of each prepared batch of carbon by measuring 100 mL adsorption efficiency standards to have a recoveries with 10% of the true value?	7.2.1				
Was the repeatability of each days' background established each day by analyzing several nitrate-wash blanks?	7.2.2				
Were duplicate blank standards and calibration standards pyrolyzed each day prior to sample analyses and determined to be within 10% of the calibration-standard value?	7.2.3				
Were two columns connected in series and 3 mL/min of sample passed through?	7.3.2				
Were columns washed after sample throughput with 2 mL/min nitrate solution?	7.3.3				
Were the contents of each column pyrolyzed separately while the columns were protected from atmosphere?	7.4.1				
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Were the column contents first pyrolyzed in a carbon dioxide rich environment at low temperature (200°C for 2 mins)?	7.4.2				
Were the column contents nest pyrolyzed in a oxygen rich environment at a high temperature (800°C for 6-10 mins)?	7.4.2				
If second-column measurements ever exceed 10% of the two-column total were corrective actions taken?	7.6				
Were all samples run in duplicate?	8.2				
Were at least two blanks eight analytical determinations apart use to establish repeatability of method background?	8.3				
Were calibrations verified with an second-source check standard?	8.4				
Were matrix spikes carried through the same preparations and analyses as associated samples and analyzed at least every 10 samples?	8.5				
Notes/Comments:					

Fig. 1. Schematic Diagram of Adsorption System

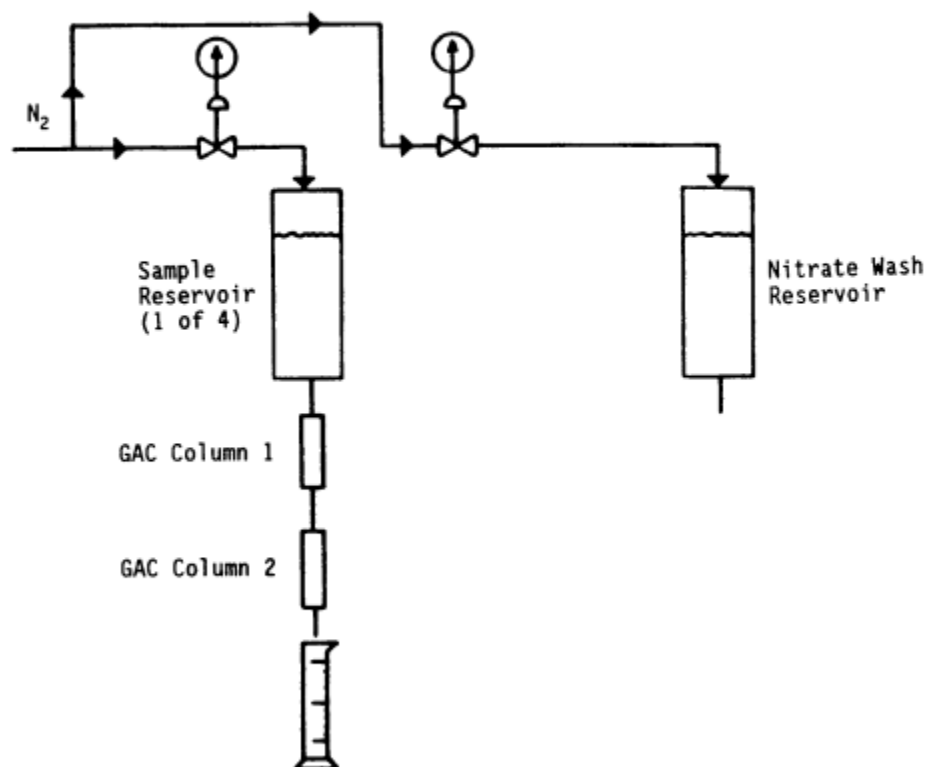
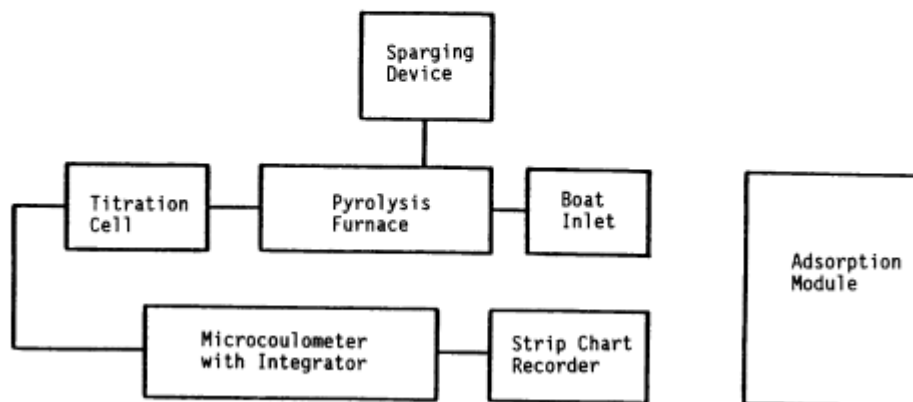
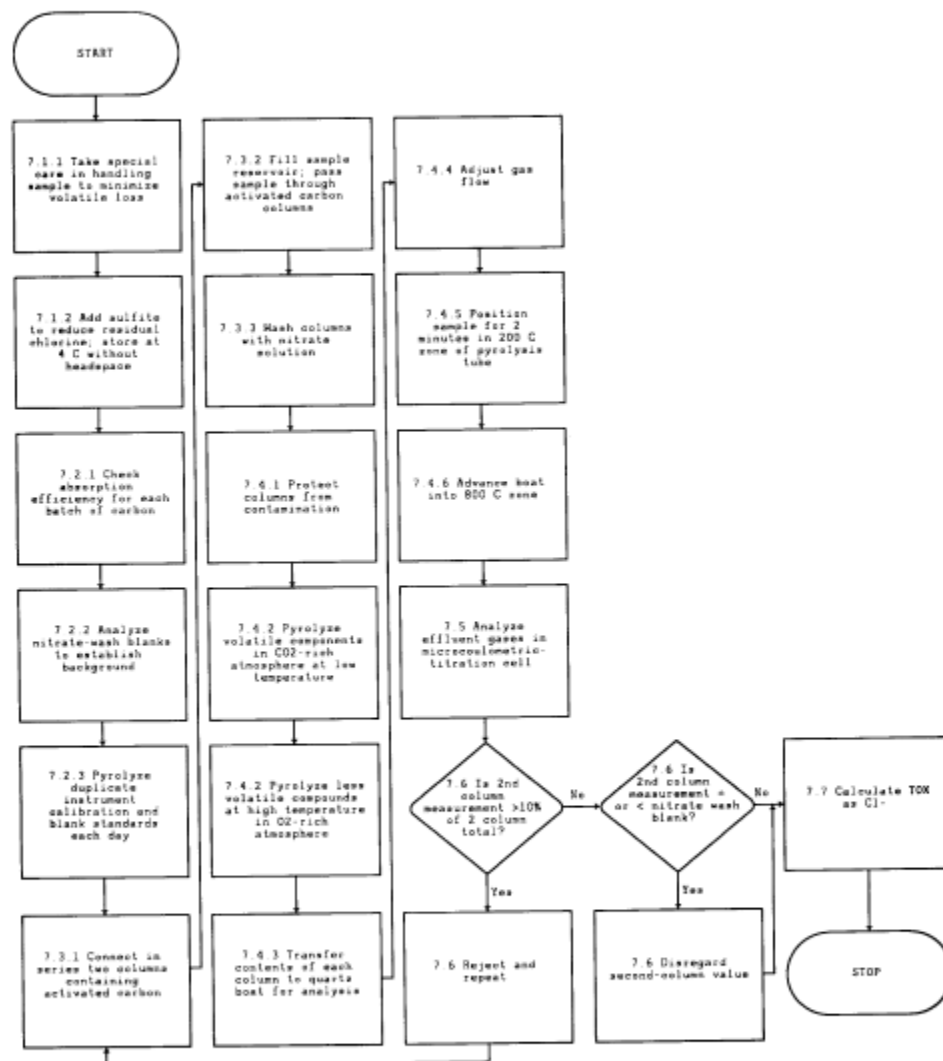


Fig. 2. Flowchart of Analytical System



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